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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/069,988      | 03/01/2002  | Takashi Yazawa       | 2002_0306A          | 5646             |

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EXAMINER

ARBES, CARL J

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

3729

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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|                              |                                      |                                      |  |
|------------------------------|--------------------------------------|--------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/069,988 | <b>Applicant(s)</b><br>YAZAWA ET AL. |  |
|                              | <b>Examiner</b><br>C. J. Arbes       | <b>Art Unit</b><br>3729              |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 June 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 32-61 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 32-43 and 53-60 is/are rejected.
- 7) ☒ Claim(s) 44-52 and 61 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9</u> | 6) <input type="checkbox"/> Other: _____  |

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 32-43 and 53-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakurai et al (Pat Nos. 5,491,888 and 5,566,447; Sakurai et al). (N.B. Since the 2 enumerated teachings are so intertwined with the same inventive concept, the Examiner will take the liberty of including each of these 3 teachings as applied to the claimed invention and therefore Applicants are noticed to rebut all remarks with respect to each of these Sakurai et al teachings when or if they choose to rebut this Office Action.) Sakurai et al teach *inter alia* a method of and an apparatus for picking up electronic components and depositing these components onto an accurate position at a deposit station or positions onto a substrate. Sakurai et al teach a plurality of component holding members which hold a plurality of components. The apparatus is capable of picking up components simultaneously. Moreover the apparatus can also pick up components which cannot be picked up simultaneously i.e the operating means can pick up the components sequentially. (Cf. Summary of the Invention in the '888 teaching) Furthermore according to the '888 the mounting apparatus includes a carriage which is mounted for movement in an X-X direction. The carriage can also move in a Y-Y direction. A plurality of pick up heads is mounted to a carriage for picking up components from a feeder, correctly orienting them and positioning and mounting them on a substrate. Movement in the Z-Z direction is controlled by a servo motor (Cf

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Col 5 of the '888) A second servo motor controls motion about a "R" axis. An encoder is coupled to the servo to provide a position signal indicative of the angular position theta about the "R" axis. An interference detector is carried by each head which is operative to provide a signal when the respective nozzle has moved along a "Z-Z" direction. Moreover a photodetector e.g. CCD emits a plurality of light rays which are obstructed by the picked up components. The system is provided with a main controller which includes in addition to an I/O means, a main processor. The protocol for the operation of the placement apparatus is as follows (Cf Col 6 in the '888). Once one of the components is picked up a program is provided so that the orientation of the component is established. If it is established that more than one component can be picked up by the various pick up heads, then the program determines if all of the components can be picked up simultaneously or if a predetermined number of components can be picked up. After the component is picked up, a calculation is made as to its orientation. Correction factors are established. If it is established that the components cannot be picked up simultaneously, then the components are picked up sequentially. Even though the components cannot be picked up simultaneously nevertheless the apparatus can perform different operations simultaneously (Cf. Col 8 of the '888) Between the pick up of the components from the feeder and the placement of the components on the substrate the width and angle of the component is calculated so it can be properly placed onto the substrate.

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Claims 44-52 and 61 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication should be directed to C. J. Arbes at telephone number (703)308-1857.

  
CARL J. ARBES  
PRIMARY EXAMINER